



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,603	09/10/2003	Hwa-Sung Shin	1349.1258	1917

21171 7590 06/15/2005

STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

MORRISON, THOMAS A

ART UNIT	PAPER NUMBER
----------	--------------

3653

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/658,603		SHIN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Thomas A. Morrison		3653	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

A

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Moreover, the claims are replete with a lack of antecedent basis. For example, claim 4 recites the limitation "the first lever member" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim. As another example, claim 7 recites the limitation "the second operating lever" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim. These are merely exemplary of the lack of antecedent basis in the claims. Applicant should review the claims and make the language consistent throughout the claims.

In addition, with regard to claim 1 its dependent claims, claim 1 does not recite sufficient structural relationship between the claimed elements (e.g., the knock-up plate raising/lowering portion, the paper guide and the pickup roller), to understand how the recited function is performed.

Moreover, claim 14 and its dependent claim do not recite sufficient structural relationship between the claimed elements (e.g., a finger portion and the paper guide), to understand how the recited function is performed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 14-22 and 24-31, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,772,007 (Kashimura). In particular, the Kashimura patent discloses all of the limitations of claims 1-5, 14-22 and 24-31.

Regarding claim 1, Figs. 13-15 show a paper feeding apparatus of an image forming apparatus having a frame (including 202), a knock-up plate (207) movably mounted on the frame (including 202), and a pickup roller (205), including

a paper setting unit having, a knock-up plate raising/lowering portion (211) raising and lowering the knock-up plate (207) with respect to the pickup roller (205),

a paper guide (222) slidably formed on the knock-up plate (207) to guide papers in accordance with a paper size, and

a finger device portion (including 224 and 224) formed to be operated by the knock-up plate raising/lowering portion (211) and the paper guide (222) on both sides of

the frame (including 202) so as to press both corners of the leading end of one of the papers when the one paper is picked up by the pickup roller (205), thereby causing the papers to be separated and fed sheet by sheet.

Regarding claim 2, Figs. 13-15 show that the finger device portion (including 224 and 224) has a first finger portion (lower 224 in Fig. 15) formed on one side of the frame (including 202) with respect to the knock-up plate raising/lowering portion (211) to press one corner of the leading end of the one paper; and

a second finger portion (upper 224 in Fig. 15) formed on the other side of the frame (including 202) with respect to the paper guide (222) to press the other corner of the leading end of the one paper.

Regarding claim 3, Figs. 13-15 show that the first finger portion (lower 224) has a first operating lever (221) disposed on the frame (including 202) to move toward or spaced away from the knock-up plate (207) when the knock-up plate (207) is raised or lowered by the knock-up plate raising/lowering portion (211); and

a first resilient returning member (210) disposed between the frame (including 202) and the first operating lever (221) to return the operating lever (221) towards the knock-up plate (207) when the knock-up plate (207) is raised by the knock-up plate raising/lowering portion (211). In particular, the spring (210) pushes the knock-up plate (207), which then causes the operating lever (221) to return toward the knock-up plate (207).

Regarding claim 4, Fig. 14 shows that the first operating lever (221) has a first hinge portion (220) rotatably supported on the frame (including 202);

a first claw (224) formed to press one corner of the leading end of the one paper; and

a first operating member (225) formed in a vicinity of the first hinge portion (220) to move the first lever member close to or away from the knock-up plate (207) when the knock-up plate (207) is raised or lowered by the knock-up plate raising/lowering portion (211).

Regarding claim 5, Figs. 13-15 show that the first resilient returning member (210) has a resilient spring arranged between the frame (including 202) and the first operating lever (221).

Regarding claim 14, Figs. 13-15 show a paper feeding apparatus of an image forming apparatus having a frame (including 202) and a knock-up plate (207), with

a paper setting unit having a paper guide (222) slidably formed on the knock-up plate (207) to guide papers in accordance with a paper size, and

a finger portion (upper 224 in Fig. 15) formed to operate in combination with the paper guide (222) so as to press at least a corner of the leading end of one of the papers positioned at a side of the paper guide (222).

Regarding claim 15, Figs. 13-15 show that the finger portion (upper 224 in Fig. 15) has an operating lever (223) disposed on the paper guide (222) to be spaced away

from the knock-up plate (207) when the knock-up plate (207) is spaced away from the pickup roller (205) by a predetermined distance; and

a resilient returning member (210) disposed between the paper guide (222) and the second operating lever (223) to resiliently return the second operating lever (223) towards the knock-up plate (207) when the knock-up plate (207) is raised to a vicinity of the pickup roller (205). Again, the spring (210) pushes the knock-up plate (207), which then causes the operating lever (223) to return toward the knock-up plate (207).

Regarding claim 16, Figs. 13-15 show a paper feeding apparatus of an image forming apparatus having a frame (including 202), a knock-up plate (207) movably mounted on the frame (including 202), and a pickup roller (205) picking up a sheet of paper disposed on the knock-up plate (207), including

a paper setting unit with a knock-up plate raising/lowering portion (211) raising and lowering the knock-up plate (207) with respect to the pickup roller (205),

a first finger device (including 216 and 218) disposed on the knock-up plate raising/lowering portion (211) to contact a first end of the paper,

a paper guide (222) slidably disposed on the knock-up plate (207) to guide the sheet in accordance with a paper size, and

a second finger device portion (223) movably disposed on the paper guide (222) to contact a second end of the paper.

Regarding claim 17, Figs. 13-15 show that the first finger device (including 216 and 218) is disposed opposite to the second finger device (223) with respect to the paper.

Regarding claim 18, Figs. 13-15 show that the frame (including 202) has a side on which the knock-up plate raising/lowering portion (211) is rotatably disposed, and the paper guide (222) moves toward or away from the side according to the size of the paper.

Regarding claim 19, Figs. 13-15 show that the first finger device (including 216 and 218) moves away from the paper when the knock-up plate raising/lowering portion (211) moves with respect to the knock-up plate (207).

Regarding claim 20, Figs. 13-15 show that the paper guide (222) moves in a direction perpendicular (up or down in Fig. 15) to a paper feeding direction, and the second finger device (223) moves together with the paper guide (222) in the direction.

Regarding claim 21, Figs. 13-15 show that the second finger device (223) moves away the paper when the second finger device (223) moves together with the paper guide (222) in the direction (i.e., finger device (223) moves away from the paper when the guide (222) moves up in Fig. 15).

Regarding claim 22, Figs. 13-15 show that the second finger device (223) comes in contact with the second end of the paper when the second finger device (223) and the paper guide (222) stop moving in the direction. In particular, the guide (222) can be moved downward from a location that is shown in the upper portion of Fig. 15 near

numeral 223 until at least a portion of the second finger device (including 223) contacts with an end of the paper.

Regarding claim 24, Figs. 13-15 show a paper feeding apparatus of an image forming apparatus having a frame (including 202), a knock-up plate (207) movably mounted on the frame (including 202), and a pickup roller (205) picking up a sheet of paper disposed on the knock-up plate (207), the paper feeding apparatus having

a first finger device (lower 224 in Fig. 15) movably disposed on a first portion of the knock-up plate (207) to contact a first end of the paper; and

a second finger device (upper 224 in Fig. 15) movably disposed on a second portion of the knock-up plate (207) to contact a second end of the paper.

Regarding claim 25, Figs. 13-15 show that the first and second finger devices (upper 224 and lower 224 in Fig. 15) move independently from each other.

Regarding claim 26, Figs. 13-15 show that the knock-up plate (207) has first and second sides disposed opposite to each other with respect to a paper feeding direction.

Regarding claim 27, Figs. 13-15 show a knock-up plate raising/lowering portion (211) moving with respect to the frame (including 202) to raise and lower the knock-up plate (207) with respect to the pickup roller (205).

Regarding claim 28, Figs. 13-15 show that the first finger device (lower 224 in Fig. 15) moves according to a movement of the knock-up plate raising/lowering portion (211).

Regarding claim 29, Figs. 13-15 show a paper guide (222) slidably disposed on the knock-up plate (207) to move toward and away from the knock-up plate raising/lowering portion (211) according to a size of the paper disposed between the paper guide (222) and a side of the knock-up plate (207).

Regarding claim 30, Figs. 13-15 show that the knock-up plate raising/lowering portion (211) moves in a first direction, and the paper guide (222) moves in a second direction perpendicular to the first direction.

Regarding claim 31, Figs. 13-15 show that the first finger device (lower 224 in Fig. 15) moves in the first direction, and the second finger device (upper 224 in Fig. 15) moves in the first and second directions.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kashimura patent as applied to claim 2 above, and further in view of U.S. Patent No. 5,615,873 (Kobayashi et al.). With regard to claim 6, the Kashimura patent shows that the second finger portion (upper 224 in Fig. 15) has a second operating lever (223) disposed on the paper guide (222) to be spaced away from the knock-up plate (207) when the knock-up plate (207) is spaced away from the pickup

roller (205) by a predetermined distance, but the Kashimura patent does not specifically show a second resilient returning member, as claimed.

Figs. 12-13 of the Kobayashi et al. patent show that it is well known to provide a resilient returning member (246) between a paper guide (near 220) and an operating lever (241) to ensure that the operating lever (241) is returned towards a knock-up plate (above 220) when the knock-up plate is raised to a vicinity of a pickup roller (above 241). It would have been obvious to one of ordinary skill in that art at the time of the invention, to provide the second operating lever (223) of Kashimura with a return member, in order to ensure that the second operating lever gets returned in the direction of the knock-up plate of Kashimura when the knock-up plate is raised, as shown in the Kobayashi et al. patent.

Regarding claim 7, Figs. 13-15 of the Kashimura patent show that the second operating lever (223) has a second hinge portion (220) hingedly supported on the paper guide (222);

a second claw (near 224) formed to press the other corner of the leading end of the one paper; and

a second operating member (225) formed in the vicinity of the second hinge portion (220) to be spaced at a second predetermined distance from the frame (including 202) so as to allow the second operating member (225) to be positioned at a wider gap with the knock-up plate (207) when the knock-up plate (207) is spaced away

from the pickup roller (205), the wider gap being widened by a distance by which the knock-up plate (207) is spaced away from the pickup roller (205).


Regarding claim 9, Figs. 12-13 of the Kobayashi et al. patent show that the second resilient returning member (246) has a tension spring (246) secured between an end of an operating member (241) and a paper guide (near 220). Thus, providing such resilient returning member in the environment of the Kashimura patent will result in the resilient return member being secured between the end of the operating member and the paper guide of Kashimura.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DONALD F. WALSH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600